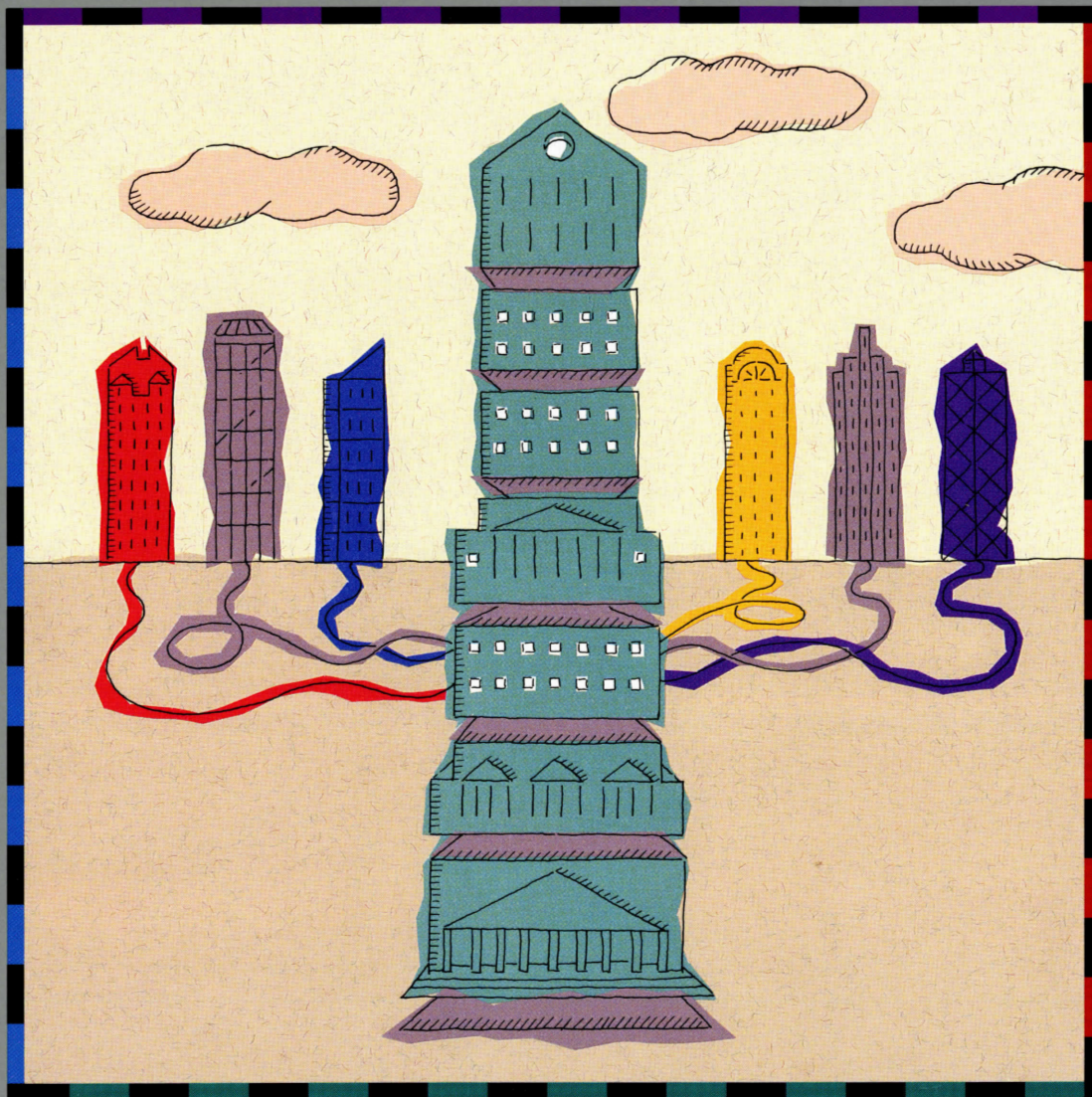


THE NETWORK. YOUR BUSINESS IS BUILT ON IT.



NETWORK GENERAL

THE SNIFFER NETWORK ANALYZER— THE RECOGNIZED LEADER

Our award-winning Sniffer Network Analyzer family is recognized as the best product in its class. It is the only product applauded by LAN Magazine as the Network Analysis Product of the Year four years in a row, and it continues to collect accolades: *LAN Times* Readers Choice Award in 1990 and 1991, *PC Magazine* Editor's Choice in 1987 and 1990, *Infoworld* "Recommended Product" designation and *Digital Review* Target Award.

And, the Sniffer analyzer is a standard part of every major computer and communications company's arsenal of network analysis tools. It is the choice of 42 of the Fortune 50 companies. These and other valued customers tell us that the Sniffer analyzer has kept pace with the rapidly changing technologies of the world of networking.

With the growth and complexity of today's network environments, it is vital for network managers to understand the operation and growth patterns of their constantly-changing systems. What worked yesterday is outmoded today. And businesses are moving more and more critical applications away from the mainframe and onto the network. Manufacturing, product development, accounting, sales, and marketing. When performance lags or the network goes down, these applications stall, users lose faith in the system, and costs quickly begin to escalate. In short, your business *depends* on the network and the network *depends* on you.

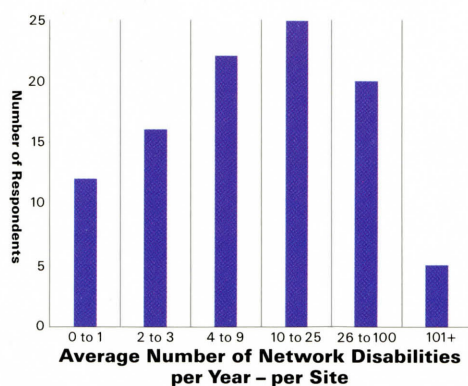
DOWNTIME COSTS. It is only a question of time until serious network slowdowns or complete failures become a regular occurrence. The costs associated with network disabilities become an issue that can't be ignored. What does it cost to have users sitting around waiting for the network to come back up? How much business might be lost while trying

to pinpoint a network failure? The smart network manager understands that buying the right network diagnostic and monitoring equipment is an investment that quickly translates into big savings. Just one network failure can mean an immediate payback—and a small price to pay—to keep an expensive and valuable corporate resource functioning properly.

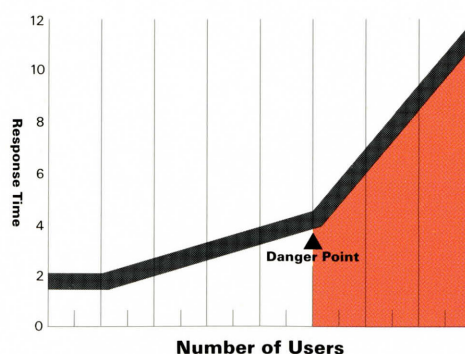
NETWORK GENERAL. WE SOLVE NETWORK PROBLEMS. Network General, the leader in network analysis equipment and systems, has a solution for quickly and effectively solving the broadest range of network problems. We understand networks, and, especially, we understand network managers' needs. Ours is a comprehensive approach to network problem-solving and maintenance—from portable tools such as the Sniffer® Network Analyzer and Watchdog Network Monitor, to a complete Distributed Sniffer System solution, for both LANs and WANs. No matter what your network topology or which protocols you are running, we have a product that can help.

FUNDAMENTALS FOR NURTURING YOUR NETWORK.

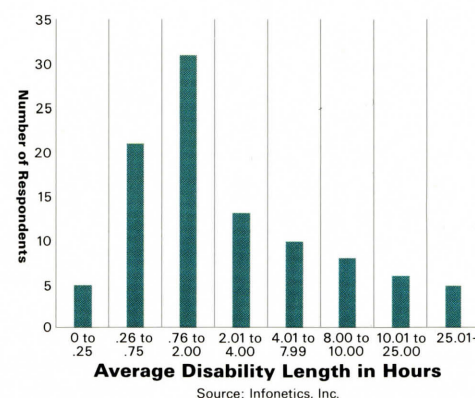
Troubleshooting

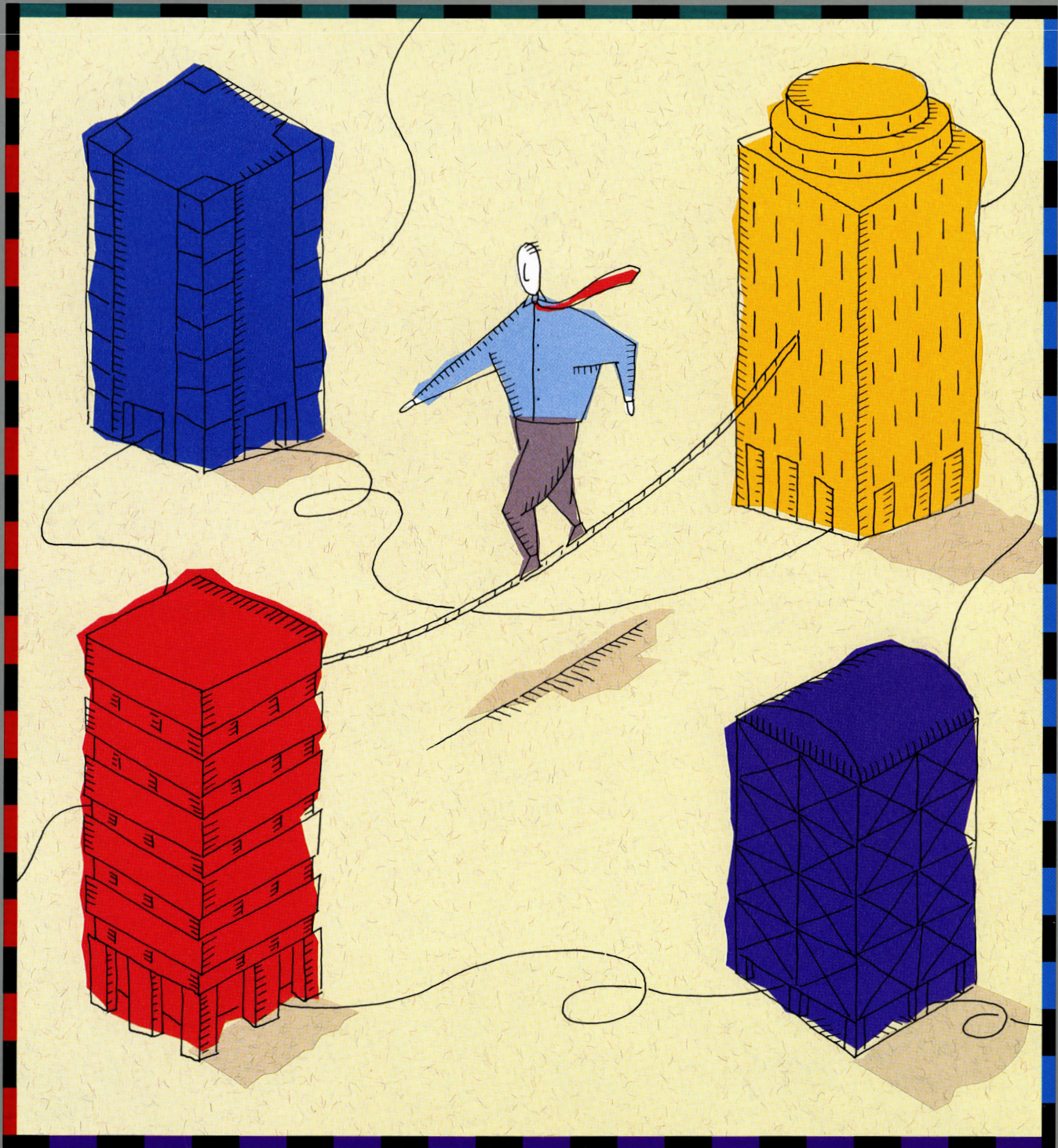


Capacity Planning
(Where on the Curve are You?)



Network Performance/Uptime





*Being a network manager
is a continuous balancing act.*

When your network begins exhibiting strange behavior and you don't know why, you have no time to lose.

Trial and error is time-consuming, and guesswork is wasteful. Your users are angry and frustrated because the network is slow, their output is not getting to the printer, or their application is not running. *You're* stressed because you need a network analysis and monitoring capability that lets you solve these problems and get users off your back.

COMPLETE, COMPREHENSIVE AND COMPREHENSIBLE. Network General is ready to help. Our Sniffer family of portable network analysis products span many network types, protocols, and configurations. The Sniffer analyzer's complete seven-layer protocol analysis gives you the total picture of your network's activity in a language truly unique to the networking industry—English. This single feature saves you precious time when it's needed most.

A common complaint of network managers is having limited network management resources—too few people with too little time. Whether you have Token Ring, Ethernet or some other LAN or WAN topology, the highly-acclaimed Sniffer user interface is consistent across the entire product line. This uniformity greatly simplifies and reduces the time and effort needed to train network technical staff.

KNOW YOUR NETWORKS. Network managers tell us over and over that the Sniffer analyzer teaches them more about their networks, protocols, and applications than they ever thought possible. You, too, can begin to master your network in a way that doesn't require a Ph.D in protocols. With a better understanding of your network, you become a more effective manager. An added benefit of doing business with Network General is the hands-on training we provide that helps you learn more about networks and teaches how to use our analysis tools more effectively.

PLAN AHEAD. Part of knowing your network is understanding how to plan for its growth. You wouldn't think of starting a business or building

a house without a plan. A network is really no different. But you need to understand what you already have and how it's working before plunging ahead into major purchase decisions. How many users can be added before you need to install another segment? Where should bridges and routers be placed? Is another file server necessary? The Sniffer Network Analyzer can easily supply you the answers to these questions.

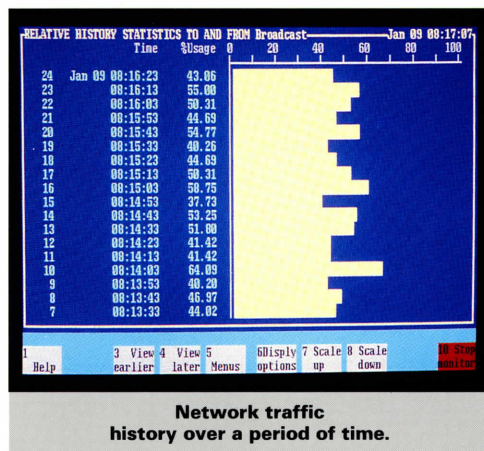
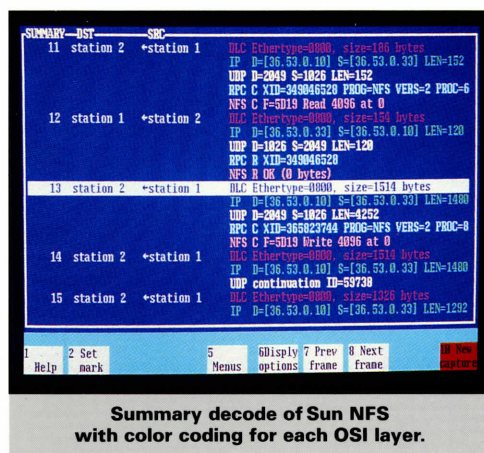
NETWORK MONITORING. IT WILL CHANGE THE WAY YOU WORK. With the Sniffer analyzer, you will begin to see

things you never saw before, and you'll wonder how you ever managed your network without one. Network utilization, file server traffic, number of errors, protocol types running on the network. With its network monitoring capabilities, the Sniffer analyzer feeds you practical, continuous information about the quality and quantity of traffic on your network. Through a system of

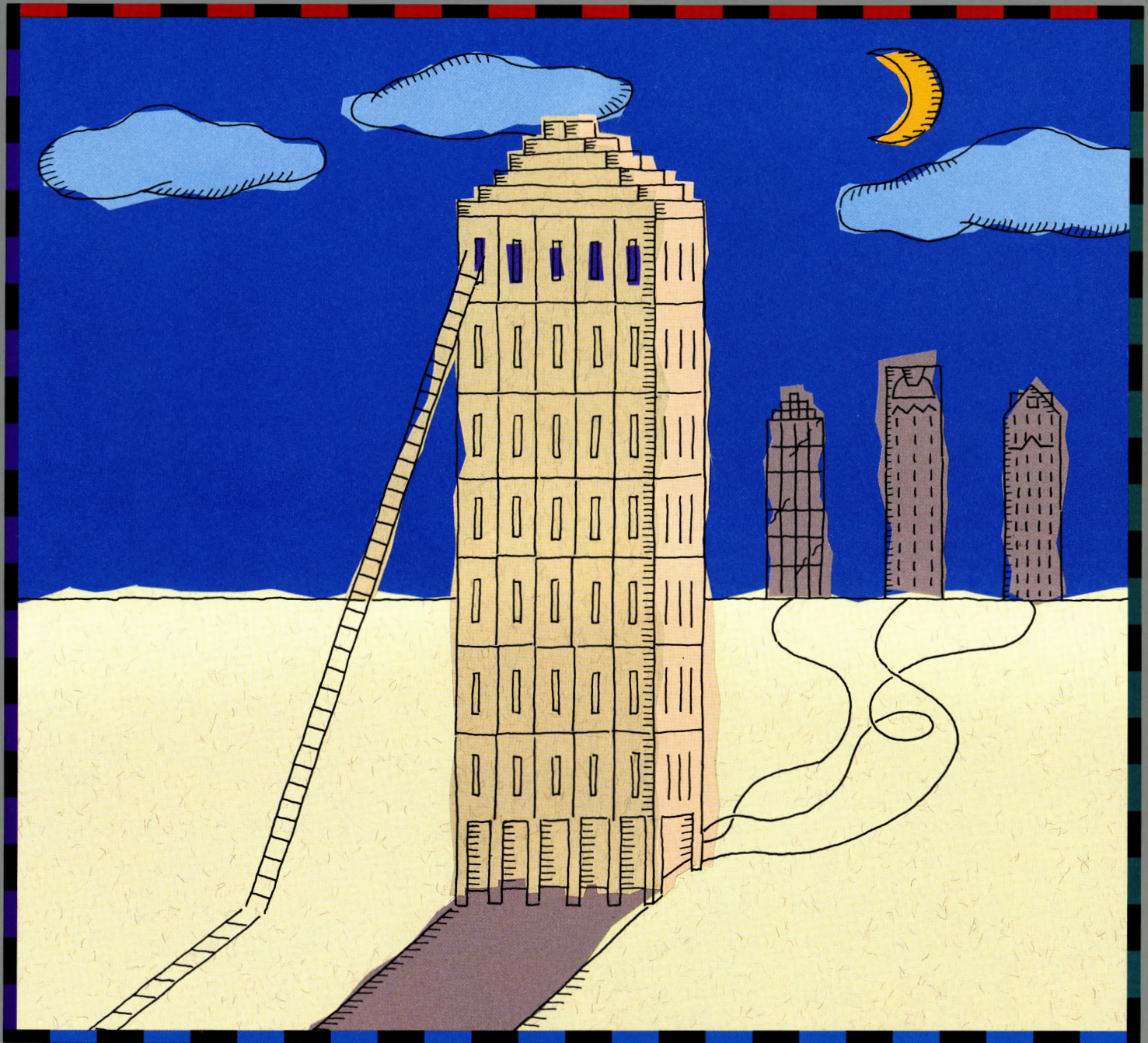
audible and visual alarms, Sniffer monitoring warns you of events that can disrupt the network. You can collect statistics on the activity of individual stations (file servers, printers, workgroups) or the network as a whole, and print management reports documenting the network or station's usage patterns.

BE PROACTIVE WITH STATISTICS, ALARMS, REPORTS. There is no such thing as a "typical" network. Each has its own usage patterns, applications, and complexities. Sniffer monitoring lets you gather historical statistics for important trend analysis with which, over time, you begin to build a picture of your own network. You are able to recognize global trends and abnor-

malities and take action before users are impacted. The alarm function is more immediate. It lets you head off problems at the pass before they become a major network event. Standard or customized network management reports documenting trends and alarms can be printed or exported to spreadsheets or ASCII files. You can begin to enjoy the luxury of managing your network proactively.



*The solution to my three-week network nightmare
was hiding at the top—in the application layer.*

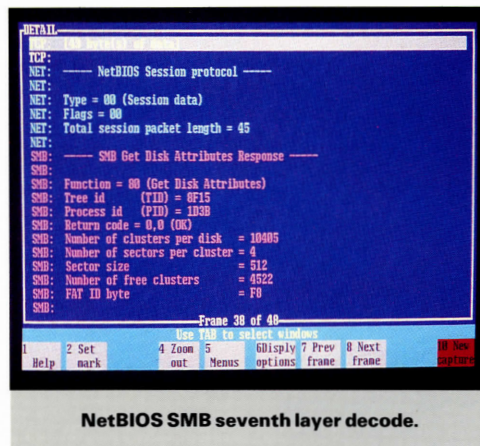


SNIFTER NETWORK ANALYSIS — THE SEVENTH LAYER.

An X-ray machine that only sees problems from the waist down is not a diagnostic instrument you would trust. The same is true for networks. If you can't see a complete picture of your network's activity through the complexities of *all* the protocol layers—including the *Application Layer*—the difficult problems will elude you. Problems that can take hours, days or weeks to unravel.

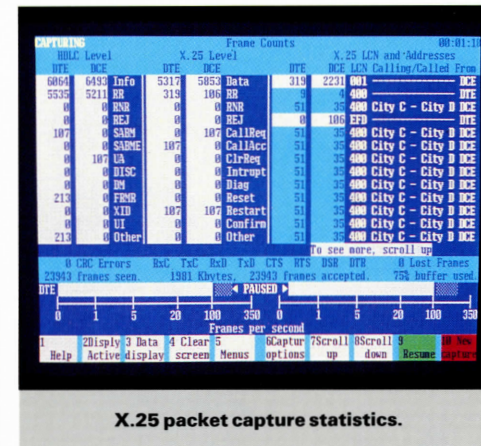
NOT ALL NETWORK PROBLEMS

ARE CREATED EQUAL. Network difficulties residing at the physical layers, such as broken cables, blown boards, and bad connectors are easily solved with the Sniffer analyzer. But when it comes to problems such as a user running the wrong version of an application package that results in poor response time across the entire network, or a network failure that is quickly traced to an incorrectly updated router table, you really begin to appreciate the uniqueness of the tool. The Sniffer analyzer is your "silver bullet" for quickly and efficiently isolating network faults at all network layers. The result is less downtime, greater user satisfaction, and improved responsiveness.



THE SNIFTER LAN/WAN ANALYZER FOR A NEW REALITY.

As more and more applications are being installed that allow users to seamlessly access information across LANs and WANs, your involvement in network management migrates towards enterprise-wide networks. No longer are you simply concerned with the performance of a departmental



LAN here or there. You are faced with issues relating to integrated LAN/WAN monitoring, analysis, and troubleshooting. This creates new concerns: are there inefficient LAN

protocols running across costly WAN lines—lines that you pay for each month? Or, when you find you need to connect remote LANs through wide area network links, how do you determine the appropriate line speed requirements? This is where the Sniffer WAN Analyzer comes in.

SAVE HARD DOLLARS. Without *seeing* the quality of the traffic traversing your wide area network links, you can't tell which applications

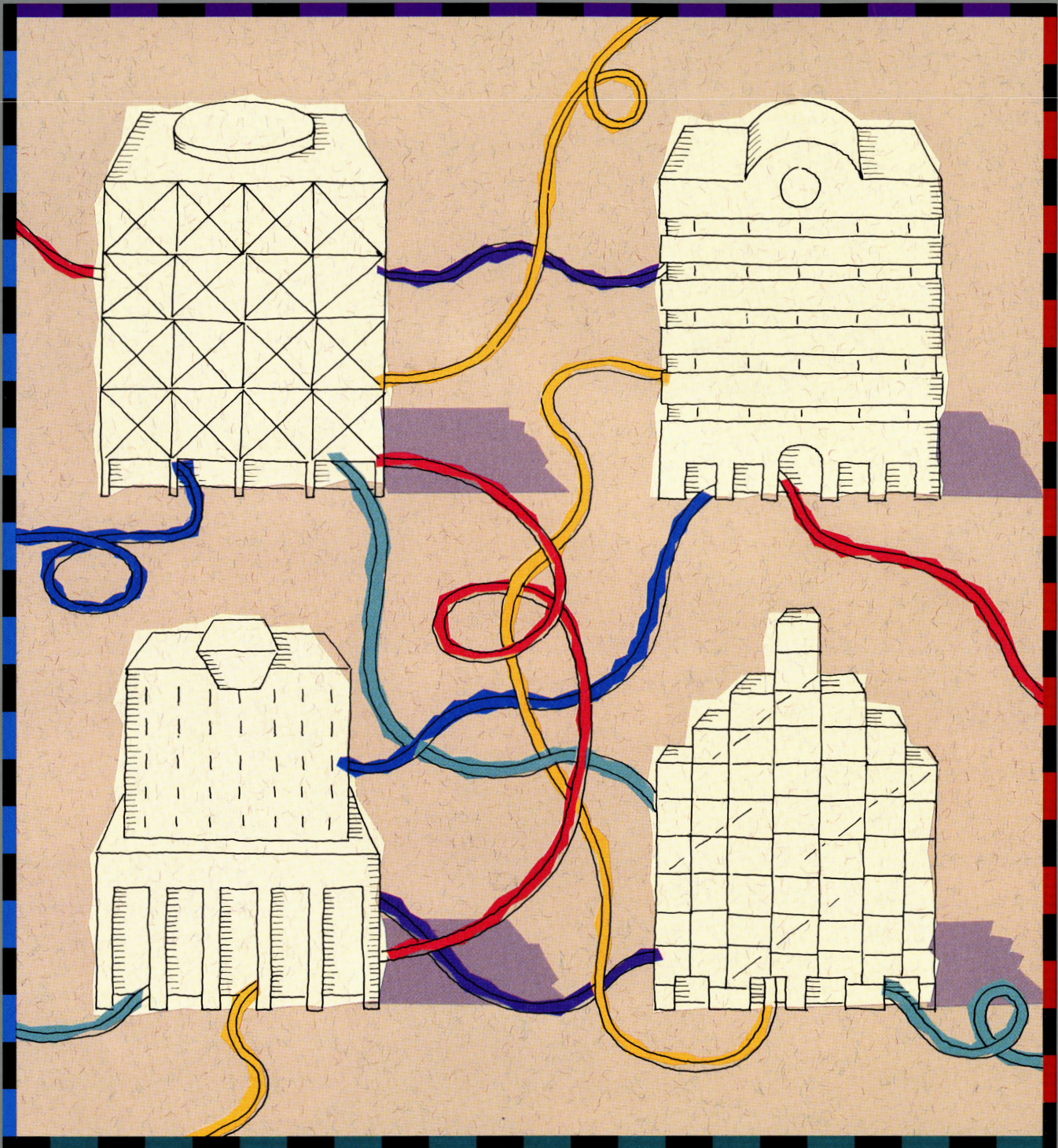
are hogging the bandwidth, which are creating unnecessary traffic, or which protocols are performing poorly. The Sniffer WAN Analyzer solves this dilemma by showing you traffic at the upper layers where the real inefficiencies lie. No other product lets you see and solve upper layer problems so completely as the Sniffer analyzer. It also provides lower layer analysis so, in one comprehensive tool, you get

complete *seven layer* protocol analysis.

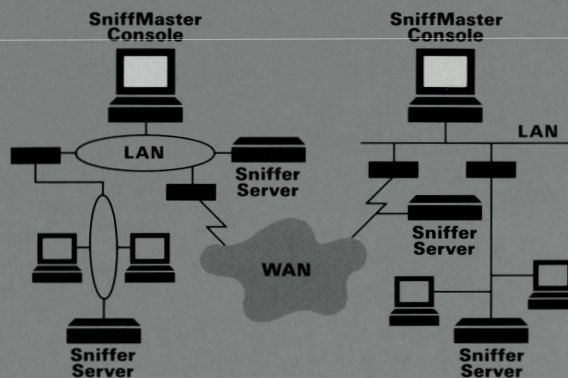
ACCOMMODATING LANS AND WANS. The Sniffer LAN/WAN Analyzer can be easily configured with dual topologies in any combination, such as WAN/Ethernet or WAN/Token Ring, simply by adding a second network interface card. You now have not only an integrated LAN/WAN tool, but also a single user interface for both network types.

With a distributed analysis system,

I can sit in one place and tap into all segments, everywhere.



Distributed Sniffer System on a Network



DISTRIBUTED SNIFFER SYSTEM™: YOUR EYES AND EARS ON THE WHOLE NETWORK

When your networks are widely dispersed and time is your most precious resource, you need a system that puts you within a keystroke of your scattered LANs and WANs, keeping all your systems up and running. The Distributed Sniffer System can do that, and more. It provides a critical piece needed to build a solid management solution for today's enterprise-wide networks—protocol analysis for network-wide fault isolation and monitoring for network performance and optimization. It is *supplementary* to existing cable, hub, bridge/router, and umbrella management systems such as IBM NetView™ because it provides troubleshooting and optimization functionality not otherwise provided by these systems: network and

station statistics and alarms to help you identify network “hotspots” where ever they may be and seven layer protocol analysis for in-depth troubleshooting of multiple network segments. The Distributed Sniffer System also communicates with industry-standard, SNMP-based Consoles, further enhancing the System's integration with other management solutions.

DISTRIBUTED INTELLIGENCE. CENTRAL CONTROL.

The breakthrough Distributed Sniffer System executes all protocol analysis and performance monitoring via applications running on intelligent Sniffer

Servers attached to individual network segments, and communicates the processed information to one or more central consoles called SniffMaster™ Consoles. This approach is a dramatic departure from the “probe” concept which requires you to deal with mounds of raw data from dispersed segments *before* any analysis or problemsolving can take place at a central location. Not only is this solution overwhelming and time-consuming, but also adds measurably to the amount of network management traffic.

LEVERAGING YOUR SCARCEST RESOURCES—TIME AND EXPERTISE. It is said that time is money. But more than money, time is sanity. Like a firefighter, you have to be ready to run at a moment's

notice, often in many directions at once. Now, with the flexibility of the Distributed Sniffer System, you can strategically place Sniffer Servers on your most important segments. For your other segments that require troubleshooting on an intermittent basis, the portability and quick set up of the stand-alone Sniffer Network Analyzer is your answer. By leveraging your expertise in performing powerful protocol and trend analysis on multiple segments simultaneously, you can troubleshoot from L.A. when there's trouble in Boston. Meanwhile, Sniffer Servers are out there working for you—analyzing and monitoring 24 hours a day, while you are involved in other tasks. In addition to helping you leverage your time by handling multiple LANs

ALARM LOG, sorted by offender 11:50:42

Server Name	Alarm Level	Alarm Timestamp	Offender	Alarm Description
Marketing	Minor	Jan 20 11:54:25	Bob	Idle 1 minute
R & D	Warning	Jan 19 11:54:16	Cathy	Idle 1 minute
R & D	Major	Jan 19 11:53:20	Samuel052417	No response 1 sec...
Marketing	Minor	Jan 20 11:54:20	General Use	Rel usage exceeds...
Marketing	Critical	Jan 20 11:53:24	Global Network	5 or more broadca...
R & D	Critical	Jan 19 11:53:41	Global Network	Idle 1 minute
R & D	Major	Jan 19 11:53:46	Global Network	Idle 1 minute
Marketing	Warning	Jan 20 11:47:40	Inteli04F40C	Idle 1 minute
Sales	Inform	Jan 14 12:03:14	Inteli07F829	Rel usage exceeds...
Sales	Warning	Jan 14 11:53:33	Inteli07F829	Idle 1 minute
R & D	Major	Jan 19 11:54:57	Inteli000833	Idle 1 minute
R & D	Major	Jan 19 11:55:13	Inteli001612	Rel usage exceeds...
Marketing	Major	Jan 20 11:48:39	Andy	Idle 1 minute
Marketing	Critical	Jan 20 11:54:25	Novell Server	Idle 1 minute
R & D	Critical	Jan 19 11:54:16	Novell Server	Rel usage exceeds...
Sales	Inform	Jan 14 12:03:14	Novell103E976	Rel usage exceeds...
R & D	Major	Jan 19 11:55:22	Novell1021085	No response 1 sec...

Use arrow keys to scroll, ESC to exit.

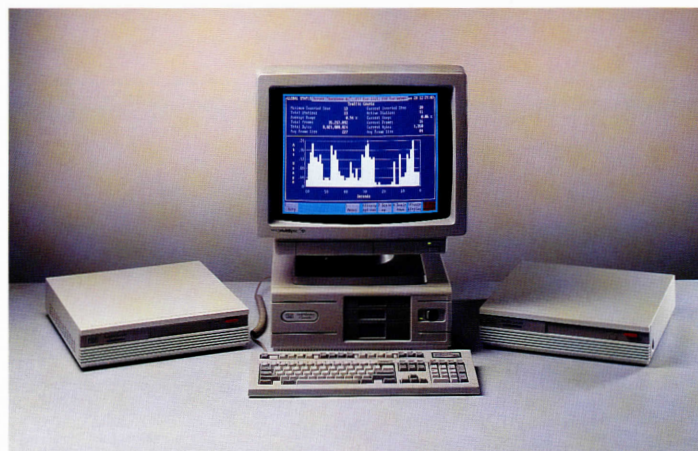
Help list screen screen Menu alarm

Consolidated network-wide alarm log

and WANs without leaving the office, the Distributed Sniffer System also lets you collaborate with other network managers stationed at SniffMaster Consoles elsewhere in the organization. Together, you can simultaneously view fully-processed information from troublesome network segments and

reach a conclusion. Sometimes, two heads are better than one.

FLEXIBLE, UPGRADABLE, OPEN. Because networks are growing and changing constantly, it is impossible to predict future needs. Rather than getting locked into a closed-end system, Network General's Distributed Sniffer



System provides an open upgrade path. Starting with support for the widest range of network topologies that communicate across bridged and routed networks using industry-standard protocols such as TCP/IP, NetBEUI, and Novell IPX, the System offers you lots of choices today. And, it leaves an easy path to future needs. Upgrades and updates are as simple as downloading from the SniffMaster Console to the Server, and avoids the inconvenience of changing PROMs. If you want to begin with the System's Monitoring Application only and add the Analysis Application later, you have that option as well. As future diagnostic applications are developed, these can be easily added.

SNIFFER PROTOCOL INTERPRETER SUITES: IMPORTANT NETWORK "ROADMAPS"

Sniffer technology, available in both PC portables and complete distributed systems, doesn't simply capture or record network traffic; it also interprets what is recorded. Seven layer protocol interpretation is what makes Sniffer systems such unique and

valuable tools, turning an inscrutable stream of bits and bytes from your networks' protocols into clear, English commands and readable text. And, it does this at all layers of the protocol stack.

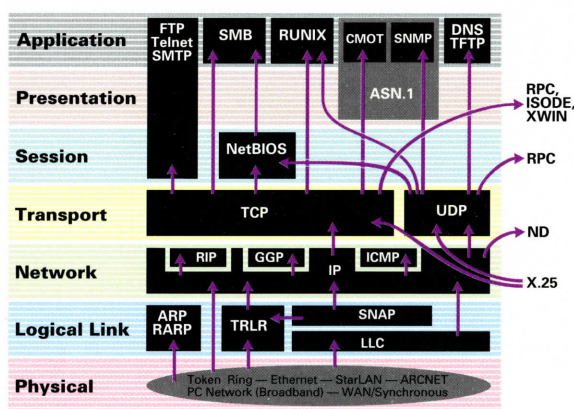
These maps show the breadth of support as well as the depth of the protocols decoded within each protocol type. With the help of these diagrams, you can begin to appreciate the differences.

- All major network protocols supported
- Over 120 protocols decoded
- The most comprehensive decode capability available

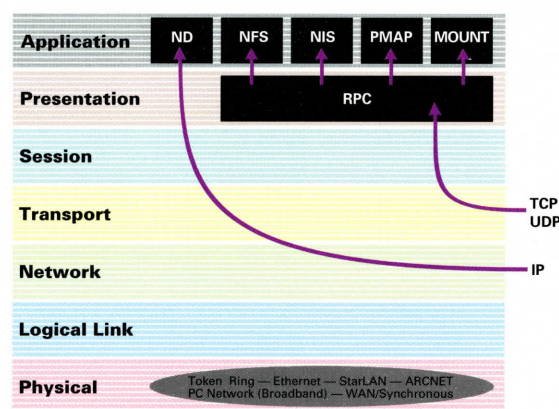
NETWORKS SUPPORTED

Ethernet
Token Ring 16 Mbps
Token Ring 4 Mbps
IBM PC LAN (Broadband)
LocalTalk
ARCNET
StarLAN
WAN (Synchronous)

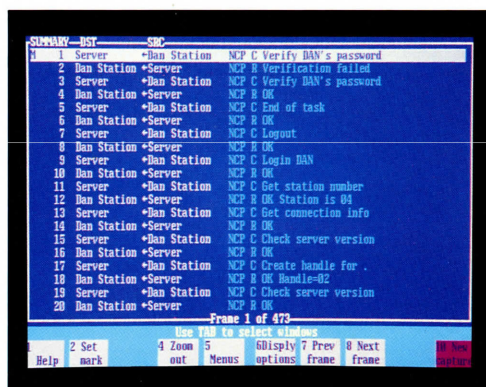
- Provides sophisticated and powerful analysis to engineers involved in all aspects of networking product development
- Helps network managers optimize the network by seeing protocol interaction and response time at all seven layers
- Teaches you about your network



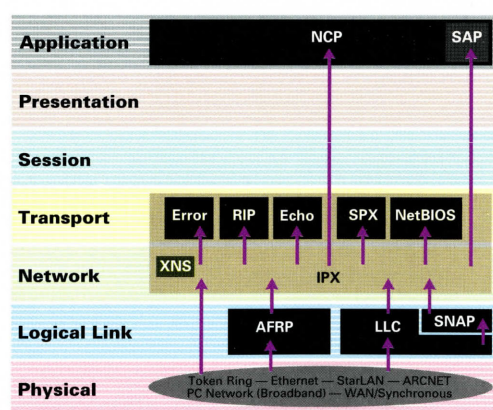
TCP/IP



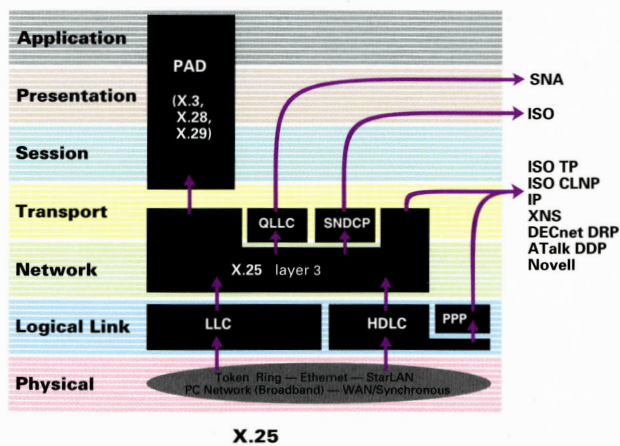
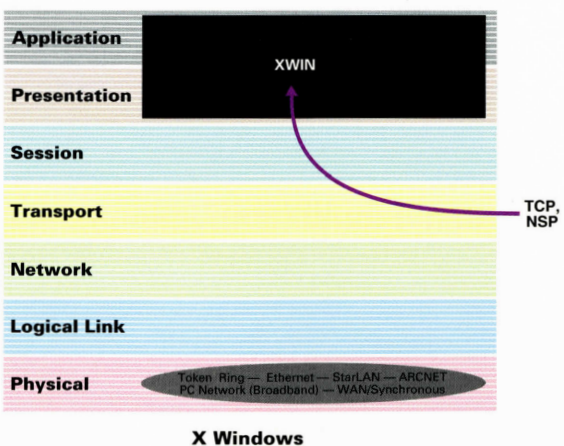
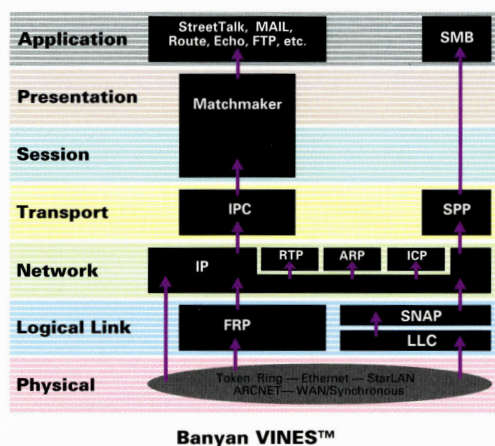
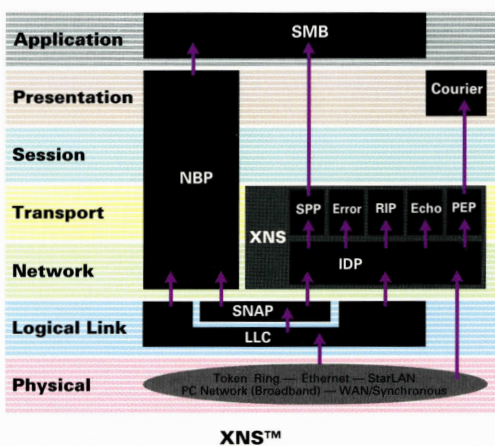
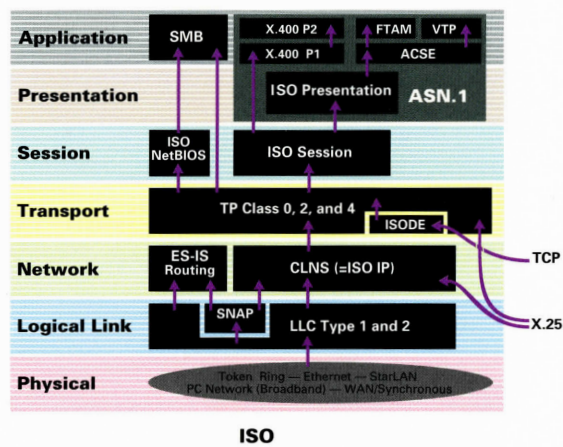
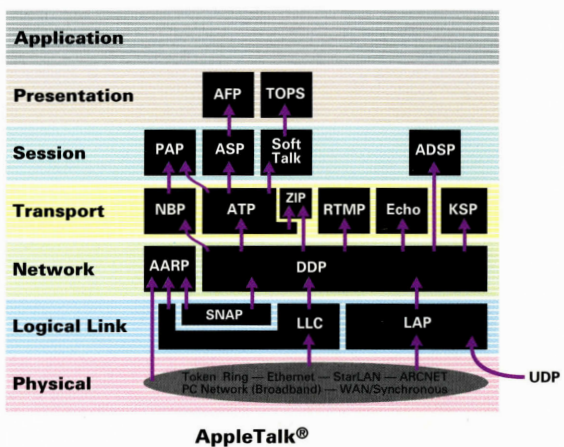
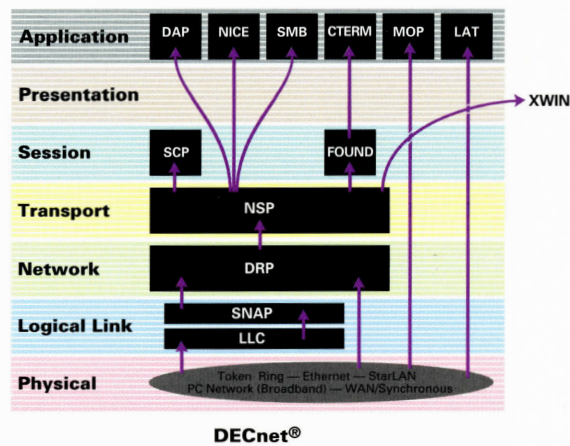
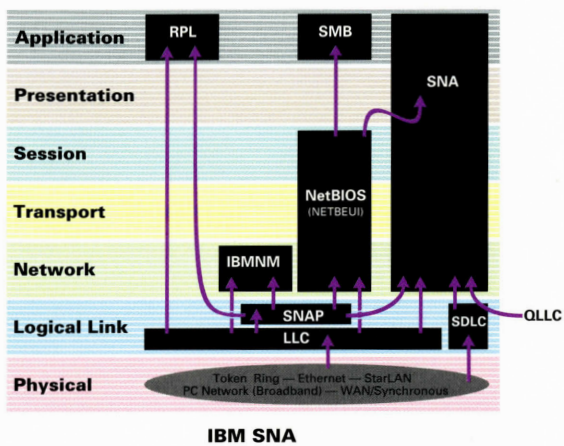
Sun NFS



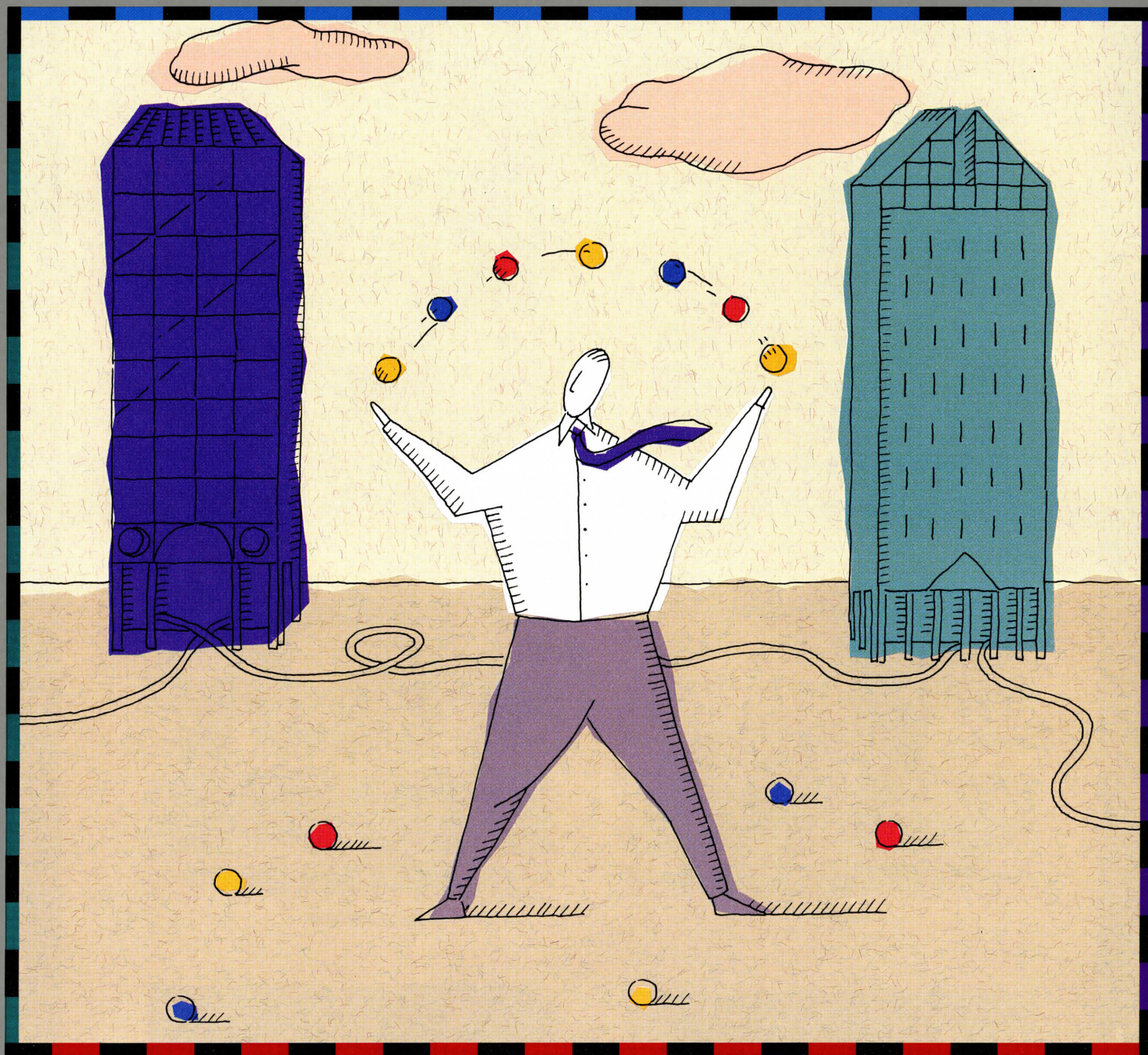
**NetWare summary showing
a user logging onto a Novell Server.**



Novell NetWare®



*I've got to juggle time, users,
equipment, and expertise. Other than that, managing
a network is a piece of cake!*



KEEPING HAPPY USERS. For network professionals interested in an affordable tool for monitoring standalone

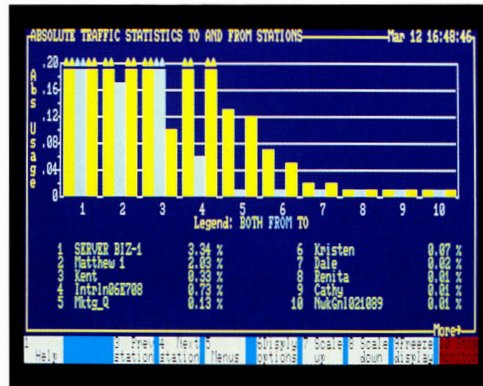
Ethernet or Token Ring LANs, the Watchdog Network Monitor is the right choice. Your LAN is a valuable resource and you want to get the most out of it. With the Watchdog Monitor, you can proactively manage the quantity and quality of traffic, intercept problems before they become acute, and get the bonus of happy users.

YOUR NETWORK HAS A PERSONALITY OF ITS OWN. There is no such thing as the "correct" network utilization. Utilization is a relative measure that must be put in the context of your particular network. Each network is unique, and in order to understand how it is operating, you need to build a profile of utilization, error rates, protocol usage for your own network. The Watchdog Network Monitor gives you this kind of information and much more. You can install the application in your own PC, run it 24 hours a day in background mode, and continue performing other management tasks. The end result is a smoother running LAN that doesn't spring surprises on you.

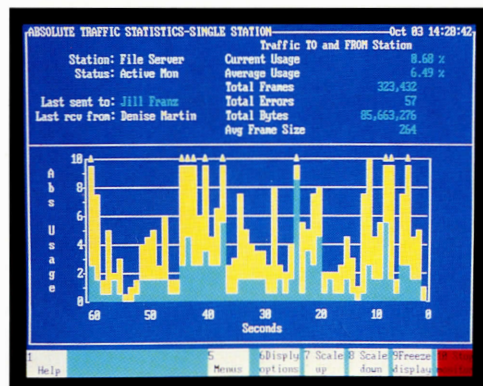
FEATURE RICH MONITOR.

The Watchdog features include:

- **Statistics**—network and individual station statistics let you see which users or file servers are the busiest, peak utilization times, or the number of errors
- **Traffic History**—both network and station traffic can be tracked and collected over time to build a picture of your LAN
- **Alarms**—audible or visual notification preset by you keeps you abreast of events, such as inoperative printers, that can disrupt the network and with it, your users
- **Report Writer**—you can get standard or customized printed management reports delineating such statistical information as traffic history, number and types of alarms, percent of network utilization over time.



Absolute traffic statistics of complete traffic activity from ten selected stations.



Single station statistics

Of course, all the functionality of the Watchdog Network Monitor is included in our family of Sniffer-based products.

The services Network General provides not only enhance your investment in our products, but also serve to leverage the greater investment your company has made in its network and the people responsible for managing it.

HANDS-ON TRAINING COURSES:

- A comprehensive set of training courses focuses on hands-on network analysis and troubleshooting
- Courses feature real-life network problems
- Learn to work with popular protocols and topologies
- Courses can be customized for presentation at your site

NETWORK GENERAL CONSULTING SERVICES:

- LANguru™ Service: Highly qualified network professionals available to help resolve knotty problems or establish a “baseline” for your network
- System Design Service: Plan implementation of Distributed Sniffer System solution on- and off-site with the help of Network General professionals
- Installation Service: Assistance available for the installation of Distributed Sniffer Systems

SNIFFER EXPRESS™:

- Overnight delivery of a fully-configured Sniffer Network Analyzer for one week's use
- Charge with a major credit card or purchase order
- Includes remote troubleshooting assistance

NETWORK ANALYSIS USERS' GROUP—NAUG:

- An independent association of networking professionals using Network General products
- Share network problems and solutions
- Annual SniffCon™ meetings with industry speakers, user presentations, panel discussions and a live network

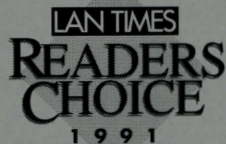
WARRANTY AND SUPPORT PROGRAMS:

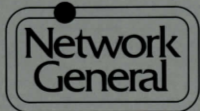
- Hardware and Software Support: Available on all Network General-supplied hardware and software, with easily extended warranty privileges
- Telephone Hotline Support: Warranty and extended warranty customers can access Network General's Support Services Group for operation, configuration and installation questions
- Automatic Upgrade Service: Warranty and extended warranty services include all new software releases and enhancements free of charge

Distributed Sniffer System

Press Clippings as of April 8

1991





We solve network problems.™

Network General Corporation

4200 Bohannon Drive
Menlo Park, California 94025
(415) 688-2700

Network General Europe

Belgicastraat 4
1930 Zaventem, Belgium
32-2-725-6030